Industry Canada Industrie Canada

Working Paper Series / Collection Documents de travail

INTERPROVINCIAL TRADE BARRIERS TOWARDS GOODS AND SERVICES IN CANADA: AN ISSUES PAPER FOR INDUSTRY CANADA*

John Whalley, University of Western Ontario

Working Paper 2007-08

Canada

The Micro-Economic Policy Analysis Branch's new Working Paper Series is intended as a means of diffusing research findings from Industry Canada projects for discussion and comment.

Working Papers are circulated in the language in which they were written. The papers reflect the views of the authors and no responsibility for them should be attributed to Industry Canada or the federal government. Comments on the papers are invited and may be sent directly to the authors.

La nouvelle série Documents de travail de la Direction générale de l'analyse de la politique micro-économique se veut un moyen de diffuser les résultats des recherches issues des projets d'Industrie Canada dans le but de favoriser la discussion et la réception d'observations.

Les documents de travail sont diffusés dans la langue dans laquelle ils ont été écrits. Les opinions qui y sont exprimées sont celles des auteurs et n'engagent pas Industrie Canada ou le gouvernement fédéral. Le lecteur est prié de faire part de ses commentaires aux auteurs.

Working Paper Series / Collection Documents de travail

INTERPROVINCIAL TRADE BARRIERS TOWARDS GOODS AND SERVICES IN CANADA: AN ISSUES PAPER FOR INDUSTRY CANADA*

John Whalley, University of Western Ontario

Working Paper 2007-08

IC 60410

---

*This research paper is one of four prepared for the Human Resources and Social Development Canada-Industry Canada Roundtable on *Internal Trade: Opportunities and Challenges*, which was held in Ottawa on March 30, 2007.

To obtain copies of documents published under the Working Paper Series, please visit: http://www.ic.gc.ca/epic/site/eas-aes.nsf/en/h_ra01967e.html or contact:

Publications Coordinator
Micro-Economic Policy and Analysis
Industry Canada
10th Floor, East Tower
235 Queen Street
Ottawa, Ontario K1A 0H5

Tel.: (613) 952-6411; Fax.: (613) 991-1261
E-mail: mepa.apme@ic.gc.ca

*Ce document de recherche est l'un des quatre documents préparés pour la table ronde présentée par Ressources humaines et Développement social Canada et Industrie Canada intitulée *Les défis et les occasions du commerce intérieur*, qui s'est déroulée à Ottawa le 30 mars 2007.

Pour obtenir des exemplaires des documents publiés dans la collection des documents de travail, cliquer sur : http://www.ic.gc.ca/epic/site/eas-aes.nsf/fr/h_ra01967f.html ou s'addresser à :

Coordinatrice des publications
Analyse de la politique micro-économique
Industrie Canada
10e étage, tour Est
235, rue Queen
Ottawa (Ontario) K1A 0H5

Tél.: (613) 952-6411; Fax.: (613) 991-1261
Courriel: mepa.apme@ic.gc.ca

Abstract

This issues paper discusses interprovincial flows of goods and services in Canada. It argues that recent heightened concern over this issue, in part based on surveys of business opinion, needs to be counterbalanced against earlier assessments in the 1980's of the issue as a tempest in a teacup. Three themes emerge from existing work. One is that the direct trade effects of interprovincial barriers seem small. A second is that for the 1970's and 1980's the impacts of federal government policies on interprovincial trade flows substantially outweigh those of provincial barriers. A third is that the costs implied by regulation seem to be large, but little regulation (with the exception of trucking) explicitly differentiates by province. Earlier work also provided inventories of interprovincial barriers and empirically based calculations to support their position, which seems to be missing in more recent commentary. The need is to update this work and assess its applicability to present circumstances. The paper also reviews experience involving other federal states (Australia, Brazil, the United States, Russia). It also comments on the 1995 Agreement on Internal Trade and the 2006 Alberta-B.C Trade, Investment and Labour Mobility Agreement, setting out further possible approaches for enhancing the impacts of these agreements over the next decade or so. Key knowledge gaps and priorities for future research are highlighted.

Key words: trade, trade barriers, internal trade

Résumé

Cette étude technique porte sur les mouvements interprovinciaux de biens et services au Canada. On y soutient qu'il faut se demander si les préoccupations accrues que soulèvent depuis quelques temps ces mouvements, comme en témoignent entre autres les résultats d'enquêtes sur l'opinion des entreprises, ne reviennent pas en fait à faire une tempête dans un verre d'eau, comme certains l'affirmaient dans les années 1980. Trois grands constats émergent des ouvrages existants. Premièrement, il semble que les barrières interprovinciales aient peu d'effet direct sur les échanges commerciaux. Deuxièmement, dans les années 1970 et 1980, les mesures du gouvernement fédéral avaient beaucoup plus d'impact que les barrières provinciales sur les mouvements commerciaux interprovinciaux. Troisièmement, les coûts associés à la réglementation semblent importants, mais peu de mesures réglementaires (exception faite des mesures touchant le camionnage) font une différenciation explicite entre les provinces. Des travaux antérieurs font état des différentes barrières interprovinciales et étayent leurs affirmations de calculs fondés sur des données empiriques, mais cette approche fait défaut aux études les plus récentes, d'où la nécessité de mettre à jour les données existantes et de déterminer si elles sont pertinentes dans le contexte actuel. L'étude expose également la situation observée dans d'autres États fédéraux (Australie, Brésil, États-Unis, Russie). Elle se penche aussi sur l'Accord sur le commerce intérieur de 1995 et sur l'entente sur le commerce, l'investissement et la mobilité de la main-d'oeuvre qu'ont conclue l'Alberta et la Colombie-Britannique en 2006, soulignant des approches qui permettraient de renforcer

l'impact de ces accords pour la décennie à venir. On y fait également ressortir les principales lacunes que comportent les données actuelles et les questions sur lesquelles on devrait prioritairement se pencher dans les travaux de recherche à venir.

Mots-clés : commerce, obstacles au commerce, commerce intérieur

1. Introduction and Review of Issues

The central issue discussed in the paper is what are the effects of interprovincial barriers in Canada related to flows of goods and services and how severe are they. The limited literature that exists suggests two polar positions. Illustrative of the position that severe effects are at stake is a recent COMPAS (2004) poll of business leaders which reports opinion that interprovincial barriers to trade are as damaging as Canada-US trade barriers with barriers to labour mobility causing the most harm and barriers to trade the least harm. Illustrative of the opposite position that the issue is a tempest in a teacup are Whalley (1983), Trela and Whalley (1986), Whalley (1996) and Boadway (1996). Their argument is that the coverage of barriers is extremely small. Their perceived effects also depend on the implicit model used, which can further mitigate any adverse effects. The need to update earlier work, and investigate further these differences is clear.

From available literature, seemingly only in the work in the 1980's is an inventory of relevant interprovincial barriers provided. Trebilcock, Whalley, Rogerson and Ness (1983) categorize their inventory under provincial government procurement policies (where most provinces gave some form of preference to local suppliers); transport regulation, and specifically trucking through provincial regulation of rates and entry, registration of equipment, weights and dimension regulations, safety restrictions and fuel taxes; provincial liquor policies; agriculture policies; preferential hiring practices and labour market impediments; and capital market impediments. Seemingly, this form of inventory remains broadly applicable today although details have changed.

Relevant to any examination of impact are also patterns and size of interprovincial trade flows in goods and services. Changes in recent years involve a more rapid growth in

international relative to interprovincial trade (to 2:1 today from 1:1 in the 1980's averaged over Canadian provinces), and a more rapid growth in trade in services relative to goods (today interprovincial service flows almost equal goods flows). Ontario is in surplus in both interprovincial trade and international trade. Quebec and hinterland provinces in Western and Eastern Canada run trade deficits on interprovincial trade.

Assessments of the impacts of interprovincial barriers are presented and discussed in Whalley (1985), Trela and Whalley (1986), Whalley (1996) and Boadway (1996). These are based on standard partial or general equilibrium analyses of the costs of distortions with discussion that follows as to how other considerations such as scale economies / market structure, dynamics, and growth effects might magnify the results. Results depend upon the presumed size of the barriers, their trade coverage, and assumed elasticity values, but available calculations for the 1980's point to only small impacts in aggregate. Magnification effects due to missing factors are argued to be only small. Current claims of large effects seemingly rest on surveys of business opinion.

Whalley (1983) also provides an assessment of the impacts of federal government policies on interprovincial trade flows using data for the mid 1970's, concluding that these substantially outweigh those of interprovincial barriers. The policies at issue include federal tariffs on imports (with higher rates on manufactures), corporate tax incentives for manufacturing (the manufacturing and processing incentive that existed in the 1970's), and the then national energy program. Today tariffs are much reduced and tax incentives and energy policies substantially changed and so the picture will be different, but the issue remains. It is also worth noting that estimates of the cost of regulation, both for Canada and other economies such as the US and Australia are high (around 10% of GDP) and so regulation at all levels of

government is a major issue. What is relevant here, however, is how much regulation discriminates between provincial suppliers, and the indication from literature is that except for trucking, there is relatively little.

Another issue is whether there is any guidance as to the impacts of interprovincial trade from other federal states. Unfortunately, there appears to be no literature quantifying the effects of interprovincial or interstate barriers to trade for other federal states, but there is literature documenting the form that some of the barriers take and recent changes in them. Australia, for instance, in the last 20 years has moved most of their professional licensing from state level to national bodies. I also briefly discuss the situation in Brazil, Russia, and the US.

A further issue is whether interprovincial borders can affect trade, even if formal barriers are few. Related literature on the national border effect following McCallum's (1995) paper is discussed. McCallum showed large effects of the Canadian national border on the relative size of Canada-US trade relative to Canadian interprovincial trade even after correcting for relative size effects, and indicated that Canadian provinces were over twenty times more likely to trade with each other than with US states. This not only suggests relative weakness of interprovincial borders, but that these borders themselves can also have similar effects even if formal barriers seem largely absent. Results pointing in this direction for US states have been reported in Wolf (2000).

I also discuss possible future policy initiatives to reduce whatever impacts stem from interprovincial barriers. I set out the two main initiatives of recent years, the Agreement on Internal Trade (AIT) of 1995 and the recent Alberta-BC Trade, Investment, and Labour Mobility Agreement (TILMA). The AIT is a mechanism using stated principles and exchanges of scheduled commitments, while the TILMA is a broad treaty with exceptions (trade in agricultural

goods). Both have weaknesses in their dispute resolution procedures. Possible approaches towards dispute resolution strengthening include mutual agreement to allow the withholding of federal funds to parties ruled against, and broadening the provincial coverage of the Alberta-BC (ABC) agreements. The feasibility of each is touched on.

I conclude by highlighting the resulting research priorities. These include the need for an updated inventory of interprovincial barriers, further analysis of the latest data on interprovincial trade flows, discussion of analytical approaches towards the evaluation of impact of complex barriers (such as licensing restrictions on mobility), and new initiatives regarding policy options in the area.

2. Inventories of Interprovincial Trade Barriers

The term interprovincial trade barrier denotes any form of interference (or distortion) of interprovincial flows of goods and services stemming from regulations, laws, or policies of provincial governments. It is usually used in its broader sense to also cover provincial government induced stimuli to interprovincial trade as well as measures that restrict trade. These are usually grouped under the broad headings of provincial government procurement policies, provincial marketing boards and other agricultural policies, provincial liquor policies, transport regulations, natural resource policies, and the effects of differences in rates and bases of retail sales taxes. Many of these policies and practices have long been viewed by researches as opaque, making assessment of their impacts difficult.

The work in the 1980's documented these policies and practices in some detail. Several ways were identified as to how provincial governments gave preferential treatment to in province suppliers when awarding contracts. One was to tailor performance requirements in the contract to match the specific capabilities of local producers. Another was the use of source lists since out-of-province suppliers found it difficult to get onto these lists. Yet another method was to specify a pricing advantage to in province bids relative to out-of-province bids. A final method was to give preferential treatment to goods having a high provincial content. Trela and Whalley (1986) report that the net effect of these for a province such as Alberta was that over 90% of all goods and services bought by the province were purchased from Alberta suppliers.

In Table 1, I document in more detail the form that these policies took in the 1980's. These involved the elements noted above, but with variation by province. Generally, policies were most preferential for the smaller provinces, reflective also of the general trend internationally that smaller economies tend to be more protectionist than larger economies.

Since the 1980's this situation has changed substantially in terms of formal arrangements, principally with the adoption of the 1995 Agreement on Internal Trade (AIT). This provides for a prohibition on policies that favour local suppliers, with Canadian suppliers able to bid on all government contracts which exceed $25,000 for goods and $100,000 for construction. Purchases by municipalities, universities and colleges, school boards and hospitals (the "MUSH" sector) are to be included. The difficulty has been that the dispute resolution mechanism in the AIT has lacked force, and so violations of this agreement have proved difficult to rectify. The repeated claim in contemporary discussion is that, de facto, many of these procedures remain in place.

Table 1
Provincial Procurement Practices and Policies in Canada in the 1980's

Newfoundland Procurement policies used a "value added" approach to allow for maximum employment of local labour and materials. A provincial overload allowance was used which measured the degree of a firm's presence in the province. This could increase the provincial preference by as much as 10% of the value of the bid.

New Brunswick Bids were evaluated on the basis of both cost and impact on employment and on the New Brunswick economy. Sourcing was limited to New Brunswick suppliers if at least three local suppliers were available.

Nova Scotia Policies aimed at maximum employment of local labour and markets. If at least three Nova Scotia suppliers were available, tendering was restricted to provincial supplies. A 10 premium could be given to Nova Scotia suppliers.

PEI Public tenders were taken only for larger contracts, with an unspecified in province preference given to local suppliers in all construction contracts.

Maritime Provinces in General A 1981 agreement among Maritime provinces provided for province first, Maritime second, and Canada third preferences.

Quebec Bids awarded both on cost bases and Quebec and Canadian content. Bidding limited to Quebec firms when sufficient competition existed among local suppliers, or when industrial policy objectives promoted. For contracts exceeding $50,000 a 10% preference applied to Quebec contractors.

Ontario 10% Canadian contract preference given, with preference given to Ontario companies where their bids were competitive.

Manitoba "Buy Manitoba" policy designed to maximize Manitoba content. Price preferences not fixed, but given on smaller contracts. Contracts often split to give smaller local firms the opportunity to tender.

Saskatchewan Preference given to local suppliers when bids were approximately the same, along with a range of mechanisms encouraging local content.

Alberta Projects requiring permits were to make maximal use of Alberta professional services and supplies. Preference given to local suppliers when price and quality of goods equal.

BC Premium of up to 10% given to local suppliers. Supplier decisions reflected cost, regional unemployment, and general health of an industry.

Sources: *Trela and Whalley (1986); Trebilcock, Whalley, Ness and Rogerson (1983)*

In the area of agricultural trade, the operation of agricultural marketing boards, agricultural support programs, and the use of restrictive product standards or regulations all impacted the interprovincial flow of goods. Supply management marketing boards imposed restrictions on entry into provincial markets and sometimes had specific provincial labelleing regulations; provincial boards covered fresh fluid milk and tobacco. Provincial supports differed by province and affect cost structures and hence interprovincial trade. Support programmes included both direct aid (cash subsidies, stabilization schemes, and assistance programmes) as well as promotional support.

Non uniform product standards often discriminated against out-of-province producers, impacting on interprovincial trade. For example, Quebec and the Maritime provinces use a Canadian grading system for potatoes, while Ontario used its own grading system. The latter allowed for potatoes that were smaller and less expensive and these were typically bought by consumers. Quebec language laws required French to be as prominently displayed as English on packaging. Quebec regulations required foil wrapping of butter, while Ontario allowed parchment wrapping.

Provincial liquor policies typically discriminated against out-of-province suppliers by giving favourable support to local products through preferential advertising, shelf space, listing and pricing policies; limiting private purchases of out-of-province products either by using quotas or levying taxes on such purchases; or by having unique packaging requirements. Trela and Whalley (1986) reported estimates of mark ups on within province liquor and out-of-province liquor as Atlantic Canada 97%, 124%; Quebec 94%, 105%; Ontario 58%, 105%; Manitoba / Saskatchewan 80%, 87%; Alberta 24%, 89%; BC 50%, 110% for the early 1980's.

Transportation regulation by province impacted interprovincial trade through trucking regulation. This both affected the delivery of transportation services to provinces differentially, and the prices of delivered goods which embodied transportation costs. There were six separate features of trucking regulation involved: regulation of rates and entry; registration requirements; weights and dimensions regulations; safety restrictions; enforcement practices; and fuel taxes.

Regulation of rates and entry involved entry control and rate approval and filing, which differed by province. The regulatory agency differed by province as did filing requirements and timetable. Some provinces regulated intraprovincial trucking differently from extraprovincial trucking and licence terms were not uniform across provinces. Registration requirements required trucks moving across provincial boundaries to pay registration fees and obtain licence plates from all provinces. Weight and dimension regulations differed by province. With lower road quality, Prairie provinces had lower weight restrictions than Ontario or Quebec; while the Prairies allowed longer vehicles than in Central Canada. The resulting non-uniformity in regulation imposed additional costs on truckers as they met requirements in all provinces they travelled through. Safety restrictions also varied by province, and provinces could restrict entry for out-of-province trucks by adopting safety requirements that were costly for out-of-province

trucks to meet. Enforcement practices are not documented, but a common allegation was more strict enforcement on out-of-province truckers than within province.

In the fuel and sales tax area, most provinces made assessments on truckers of fuel taxes to be paid on the basis of fuel actually used within the province through logging of mileage travelled. Any excess of actual payment over assessment was then either refunded or given as a credit. In Quebec, the credit was required to be used up in 12 months which created an incentive to travel more in Quebec. Additionally, each province assessed a sales tax on every truck entering a province. While there was an Interprovincial Sales Tax Agreement (ISTA) under which truckers paid sales tax only in their home province with this sum distributed to other provinces according to mileage actually travelled in each province, truckers traveling to the US were not covered by the ISTA and had to pay sales taxes in all provinces they travelled through. This generated an incentive for truckers to specialize in either interprovincial or international trade.

Natural resource policies impacted on interprovincial trade in resource products and did so in a number of ways. Taxes or royalties on resource income created the incentive to concentrate activity in lower taxed provinces. Also there are various features which increased the amount of processing done within a province. These included processing allowances, incentives for exploration and related costs, and additional duties or requirements on products if they were shipped out-of-province in unprocessed form. The terms and conditions applying to leases granted by provincial governments often limited entry only to local residents, or imposed requirements that resources be processed within the province.

In the retails sales tax area, differences occurred across provinces both in the rates of tax and the product coverage. Rate differences created an incentive for cross border shopping, ie.

purchases in a neighbouring lower tax province. Given geography and the relative similarity of tax rates with the exception of Alberta, this was an issue which effectively only applies to the Alberta border. Most provinces exempted food, housing, and some clothing and footwear from the tax, and some estimates placed exemptions from the tax at as much as one half of consumer expenditures. To the extent that provincial sales taxes caused consumers to buy more non taxed items, provinces with manufacturers were more adversely affected (eg. Ontario and Quebec).

The widely held belief is that many of these policies remain largely in place today as they were in the 1980's, despite the AIT. There is, however, no comparable inventory of measures to that produced earlier. The need is then to first update the carefully compiled and labour intensive inventories produced in the 1980's. These inventories involved three people full time for six months, and substantial investigative effort with visits to professional and industry bodies as well as to government agencies. Some of the material so gathered is anecdotal, and so a carefully sorting through material will be required.

3. Data on Interprovincial Trade Flows

Any assessment of the impact of interprovincial trade barriers on interprovincial flows of goods and services requires a series of steps. First is the documentation of the form that barriers take; the next is their representation in some form of analytical structure which can be used for counterfactual analysis showing their impacts if removed; and finally comes data and parameters which can be used for purposes of model calibration and counterfactual analysis. As will be discussed later, the form of model used, the underlying assumptions adopted in it and the parameter values used will to a significant degree predetermine the conclusion as to barrier impact. For key parameters, such as substitution elasticities between interprovincially supplied goods, there are no available literature estimates.

In terms of data, Canada is seemingly unique among federal states in having detailed interprovincial trade data by product and by province. These are compiled every five years by Statistics Canada using the census of production in which the provincial location of all responding plants and enterprises is obtained. Interprovincial trade data is then collected using separate information on shipments provided along with responses to the census of production.

Tables 2, 3, and 4 report recent provincial trade data from Statistics Canada showing bilateral flows between provinces, such as provinces' international trade flows, as well as their interprovincial and international trade imbalances. These data indicate heavy reliance on within province sourcing in all provinces, and rising reliance on international over interprovincial sourcing. This latter ratio varies by province, but across the whole of Canada averages at around 1 : 1 in the 1980's and around 2 : 1 in 2002 data. This reflects the large growth in Canada-US trade over those years. Using a plot of these ratios over a 25 year period, Columbe (2003) refers

to a 'L shaped' curve when reverse plotted against time, reflecting the rapid growth in recent years of international to interprovincial trade.

Table 4 reports interprovincial and international trade imbalances by province for 2002. These data reveal that most provinces run international trade surpluses, consistent with the aggregate significant trade surplus that Canada as a whole generates. On the interprovincial side, however, only Ontario runs a trade surplus and all other provinces run interprovincial trade deficits; the largest of which is BC.

What is not revealed by these data are the fraction of interprovincial trade that is impacted by interprovincial barriers, nor what interprovincial trade would be in the absence of any barriers. For this, some form of analytical structure is needed to capture the effects of barriers, to which I turn in the next section.

Table 2
Sourcing of Purchases of Goods and Services by Province, 1997
($ million)

	Purchases By				
Purchases from	**Nfld.Lab.**	**P.E.I.**	**N.S**	**N.B.**	**Que.**
Newfoundland Labrador	14,591	29	168	107	339
P.E.I.	46	3,645	117	179	132
N.S.	484	249	28,786	907	798
N.B.	335	254	996	22,010	1,746
Quebec	1,085	271	1,615	2,067	251,925
Ontario	2,099	520	3,678	2,788	27,799
Manitoba	49	19	115	102	1,292
Saskatchewan	23	16	61	38	640
Alberta	183	33	219	174	2,493
British Columbia	108	24	191	190	1,774
Yukon					4
Northwest Territories	2		9	1	53
Total Interprov. Imports	4,414	1,414	7,170	6,554	37,075
International Imports	3,028	496	6,261	6,136	62,310
Total Demand	22,033	5,554	42,217	34,699	351,309
Ratio of own province sourcing to total demand	0.6622	0.6563	0.6819	0.6343	0.7171
Ratio of interprovincial sourcing to total demand	0.2003	0.2546	0.1698	0.1889	0.1055
Ratio of international inputs to total demand	0.1374	0.0893	0.1483	0.1768	0.1774

Source: *Statistics Canada*

Table 2 (cont'd)

Purchases from	Purchases By Ont.	Man.	Sask.	Alta.	B.C.	Yuk	N.W.T.
NewfldLab	352	15	13	37	32	1	4
P.E.I.	207	12	8	21	22	1	
N.S.	1,127	75	64	225	241	3	26
N.B.	1,656	52	33	94	87	2	3
Quebec	22,795	1,272	1,100	3,541	3,436	41	208
Ontario	464,582	4,575	4,001	13,078	10,976	170	442
Manitoba	3,161	37,867	1,339	1,636	1,086	8	39
Saskatchewan	2,476	836	37,841	2,294	658	10	18
Alberta	9,113	2,142	3,586	148,082	6,506	92	339
British Columbia	4,069	756	1,050	5,843	160,877	159	182
Yukon	22	2	3	36	64	1,628	18
Northwest Territories	313	11	12	104	77	3	4,307
Total Interprov. Imports	45,273	9,749	11,209	26,909	23,190	490	1,280
International Imports	159,262	8,736	8,014	27,522	30,421	183	463
Total Demand	669,117	56,352	57,065	202,513	214,488	2,301	6,050
Ratio of own province sourcing to total demand	0.6943	0.6720	0.6631	0.7312	0.7501	0.7075	0.7119
Ratio of interprovincial sourcing to total demand	0.0677	0.1730	0.1964	0.1329	0.1081	0.2130	0.2116
Ratio of international inputs to total demand	0.2380	0.1550	0.1404	0.1359	0.1418	0.0795	0.0765

Table 3
Sourcing of Purchases of Goods and Services by Province, 2002
($ million)

	To					
From	**B.C.**	**Alberta**	**Sask.**	**Man.**	**Ontario**	**Quebec**
Newfd Lab	48	65	21	19	1,139	972
P.E.I.	16	24	6	18	257	153
N.S.	212	347	98	99	1,778	1,064
N.B.	148	171	59	82	1,323	2,327
Quebec	4,128	4,442	1,160	1,458	30,869	330,292
Ontario	13,889	17,044	4,507	5,310	646,210	36,819
Manitoba	1,240	2,237	1,444	46,763	4,262	1,653
Saskatchewan	957	2,772	44,856	1,311	3,644	750
Alberta	8,483	208,207	4,986	3,326	12,699	3,790
B.C.	193,282	8,787	1,250	1,059	6,519	2,652
Yukon	102	17	4	4	31	8
N.W.T.	155	68	12	11	442	32
Nunavut	8	12	2	7	20	11
Total Interprov. Imports	29,396	35,986	13,548	12,703	62,986	50,231
International Imports	38,870	56,057	13,566	10,493	217,948	83,538
Total Demand	261,548	300,250	71,970	69,959	927,144	464,061
Ratio of own province sourcing to total demand	0.7390	0.6934	0.6233	0.6684	0.6970	0.7117
Ratio of interprovincial sourcing to total demand	0.1124	0.1199	0.1882	0.1816	0.0679	0.1082
Ratio of international inputs to total demand	0.1486	0.1867	0.1885	0.1500	0.2351	0.1800

Table 3 (cont'd)

From	To N.B.	N.S.	P.E.I.	Nfld Lab	Yuk.	N.W.T.	Nun.	Inter-prov. Export
Newfd Lab	673	525	40	18,918	1	7	5	3,514
P.E.I.	226	162	4,972	64	1	1	1	930
N.S.	1,211	37,660	347	763	5	30	11	5,965
N.B.	28,124	1,213	407	500	6	16	5	6,256
Quebec	2,597	1,938	277	1,217	41	215	120	48,497
Ontario	3,354	4,164	622	2,396	151	465	142	89,012
Manitoba	133	149	31	688	815	56	27	11,314
Saskatchewan	62	91	16	36	7	22	8	9,677
Alberta	253	461	47	334	115	449	133	35,078
B.C.	199	293	51	148	189	201	45	21,395
Yukon	1	1	0	0	1,922	18	8	193
N.W.T.	1	4	0	1	3	4,179	61	789
Nun.	1	2	0	1	1	19	1,962	83
Total Interprov. Imports	8,709	9,003	1,839	5,528	533	1,449	566	
International Imports	9,341	8,679	1,022	6,254	161	947	193	
Total Demand	46,174	55,342	7,833	30,700	2,616	6,575	2,721	46,174
Ratio of own province sourcing to total demand	0.6091	0.6805	0.6348	0.6162	0.7347	0.6356	0.7211	0.6091
Ratio of interprovincial sourcing to total demand	0.1886	0.1627	0.2348	0.1801	0.2037	0.2204	0.2080	0.1886
Ratio of international inputs to total demand	0.2023	0.1568	0.1305	0.2037	0.0615	0.1440	0.0709	0.2023

Table 4
Interprovincial and International Trade Imbalances by province, 2002
($ million)

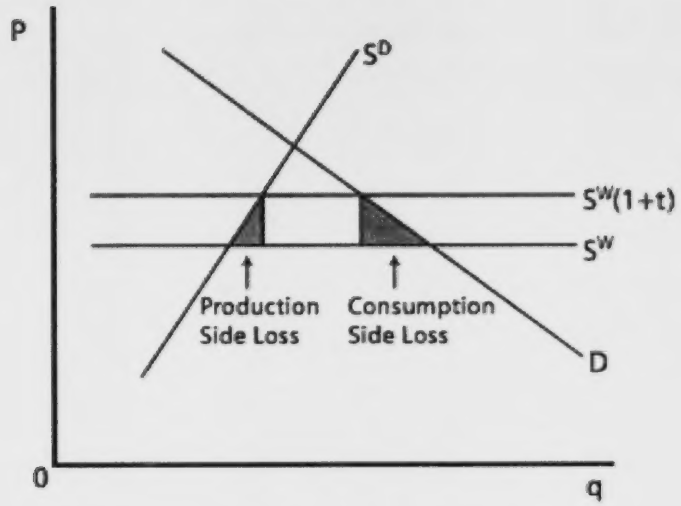
Province	International			Interprovincial		
	Exports	Imports	Trade Balance	Exports	Imports	Trade Balances
Newfd Lab	6,254	4,826	+1,428	3,514	5,528	-2,014
P.E.I.	1,022	825	+197	930	1,839	-909
N.S.	6,679	8,579	-1,900	5,965	9,003	-3,038
N.B.	9,341	9,074	+267	6,256	8,709	-2,453
Quebec	85,358	79,466	+5,892	48,497	50,231	-1,734
Ontario	217,948	196,261	+21,687	89,012	62,986	+26,026
Manitoba	10,443	10,507	-64	11,314	12,703	-1,389
Saskatchewan	13,566	8,944	+4,622	9,677	13,548	-3,871
Alberta	56,057	40,296	+15,761	35,078	35,986	-908
B.C.	38,870	36,389	+2,481	21,395	29,396	-8,001
Yukon	161	289	-128	193	533	-340
N.W.T.	997	718	+279	789	1,449	-660
Nunavut	193	240	-47	83	566	-483

4. Assessing the Impacts of Interprovincial Barriers to Trade

The limited assessments that exist in the literature of the impacts of interprovincial trade barriers build on existing literature on tariff impacts on international trade, with discussion of how missing effects such as scale economies, endogenous growth considerations, and other elements may magnify model predicted effects for interprovincial barriers. Whalley (1983) presents some partial equilibrium estimates of interprovincial barrier impacts using 1974 data and assumed elasticity parameters, along with speculative estimates of barrier equivalents in ad valorem terms: Trela and Whalley (1986) provide further and later partial equilibrium estimates, along with some related estimates generated from general equilibrium modelling. Whalley (1996) and Boadway provide discussion as to how various missing factors could magnify model generated impact.

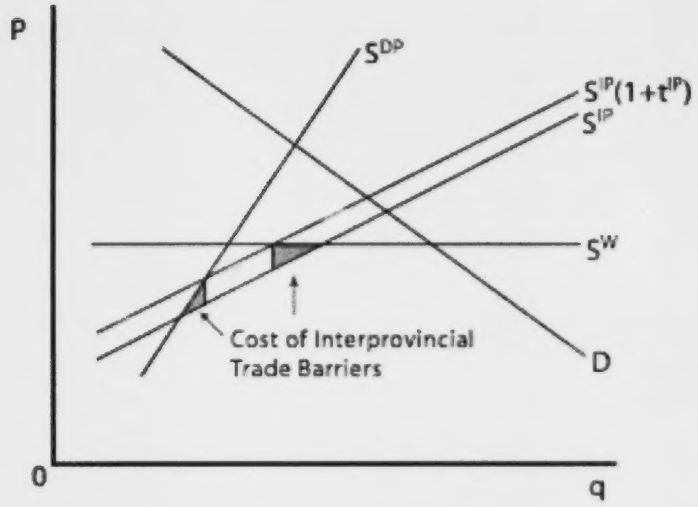
The standard textbook analysis of the impacts of a tariff for a small open price taking economy is set out in Figure 1. Here, for a single commodity, there is a downward sloping demand function, an upward sloping domestic supply function and a perfectly elastic international supply function. Here the tariff shifts the international supply function causing substitution between consumption of the protected good and other goods, as well as substitution in production between the two sources of supply. The effect of the tariff is to reduce trade volumes, and inflict welfare losses as represented by the two triangular areas shown. In the case there is both international and interprovincial trade the analysis differs.

Figure 1
Partial Equilibrium Analysis of the Effects of a National Tariff on International Trade



Here, as in Figure 2, if the marginal source of supply to the domestic market is from international sources, the effect of an interprovincial trade barrier will be to increase both home production and international supply, but with no effect on prices paid by the consumer of the product. The loss inflicted by interprovincial barriers is shown by two separate areas between the supply functions. Interprovincial barriers thus have the effect of stimulating international trade while international trade barriers have the effect of stimulating interprovincial trade. The orders of magnitude of these two effects depend on the relative elasticities of respective supply functions, but if these are similar, the effects can be large.

Figure 2
Partial Equilibrium Analysis of the Effects of Interprovincial Trade Barriers



Whalley (1983) provides some suggestive calculations of the impacts of interprovincial trade barriers using this approach. Making the strong assumption that barriers apply to all interprovincial trade at an ad valorem equivalent rate of 10% and that all provinces have demand elasticities of 0.5 yields a cost estimate of 0.13% of gross domestic product (GDP), if elasticities are unity the cost estimate is 0.22% of GDP. Trela and Whalley (1986) provide estimates of partial equilibrium impacts for individual barriers using data for 1981. They show even smaller aggregate impacts than Whalley (1983), with the largest effects occurring from liquor policies by provinces, and the second largest from procurement policies.

General equilibrium analysis of the effects of tariffs differ from partial equilibrium analyses in capturing the effects on all markets in the economy on both the import and export side. To illustrate this, the impact of a national tariff in a small open price taking economy

exporting one good and importing another is illustrated in Figure 3. Here the economy has a convex production set yielding a production possibility frontier concave to the origin. The effect of the tariff is for the economy to trade internationally at tariff distorted prices, reducing the volume of trade and imposing costs both on the demand and the production sides of the economy.

Trela and Whalley (1987) report estimates of impacts of interprovincial trade barriers using a general equilibrium methodology. They construct a differentiated products (Armington) type model which they calibrate to a 1981 microconsistent dataset covering six Canadian regions (Atlantic Canada, Quebec, Ontario, Manitoba/Saskatchewan, Alberta and BC) and using varying levels of commodity aggregation (a 6 commodity and a 13 commodity variant). They use CES functional forms in both demands and production, incorporating intermediate production. Foreign trade enters through trade with a rest of the world. The estimates they report (Table 5-26, p.172) are even smaller than the partial equilibrium estimates above, and are below 0.05% of GDP.

Whalley (1996) and Boadway (1996) both provide subsequent commentary on whether these estimates are likely to be substantially magnified by missing effects. These include scale economies, spillover effects as emphasized in the endogenous growth literature, and dynamics. They both come to the conclusion that any such magnification effects are likely to be small, and in extreme cases could even reduce impacts. They argue that the product coverage of barriers is small, is largely restricted to agriculture, liquor, and government procurements, so that scale economy and dynamic investment related issues affecting manufacturing are likely to be small. They also highlight some implicit arguments from endogenous growth literature (see Young

(1991)) as to why with uninternalized externalities there can be gains from international or interprovincial protection.

Recent argument going the other way relies on poll results and anecdotal evidence of particular cases, and the general presumption that regulation implies substantial costs and provincial governments account for a significant fraction of this. Poll results in the Compass (2004) poll are indicative of this position. They involved business leaders (CEOs of both small and large companies in Canada in September 2004). The questions they were asked were "There's been debate about the seriousness of interprovincial barriers in general. Insofar as you can tell, are interprovincial barriers (a) a lot worse than barriers to Canada-US trade, (b) somewhat worse, (c) about the same, (d) somewhat better, (e) a lot better, (f) don't know". Responses were 10% (a), 22% (b), 22% (c), 23% (d), 16% (e), and 6% (f).

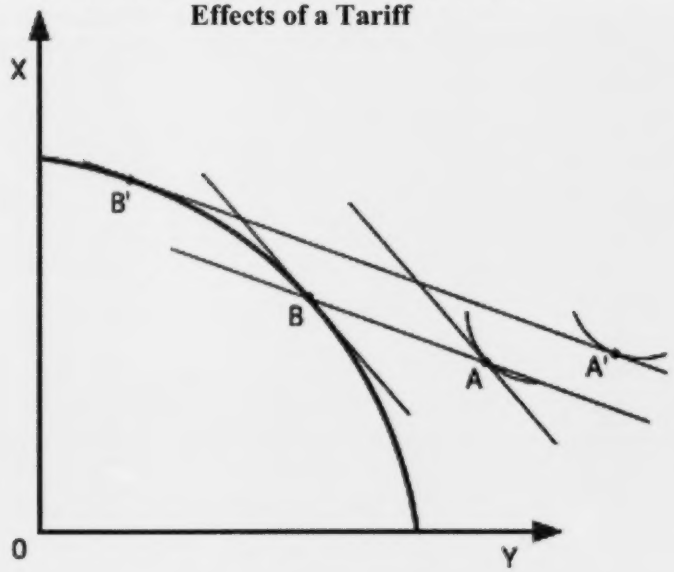
Respondents also indicated strong opinion that barriers to labour mobility caused the most harm, and barriers to trade in liquor the least. These opinions find their echo in recent testimony to various parliamentary committees.

Estimates of the cost of regulation in Canada are few and far between, but those that exist seem consistent with studies for other countries and are large. Milhar (1996) estimates the cost of regulation in Canada at 12% of GDP. He used an assumed ratio between private compliance costs and spending on regulatory programmes and extrapolated national regulatory costs from federal and provincial administrative budgets. Related estimates for Australia (Industry Commission (1995)) put the cost of regulation at 9-19% of GDP, while for the US estimates by Hopkins (1992) and Winston (1993) are in the range of 7.2-9.5% of GDP. These estimates are dramatically larger than those given above or interprovincial trade barriers, but it is unclear how

much of these costs relate to distortions of interprovincial trade directly. The likelihood seems to be that trucking is the main area and such costs are restricted to this area.

A theme that emerges from Whalley (1973) that is relevant to the discussion here is that the induced effects on interprovincial trade flows from federal government policies, at least for the 1970's and 1980's substantially outweigh those of interprovincial trade barriers. Whalley considers the effects of the federal tariff with higher rates on manufactures, corporate tax incentives towards manufacturing (the old manufacturing and processing incentive), and the then national energy programmeme. While the last two of these are now removed and tariffs substantially reduced, the issue remains for today as to whether the same ranking applies.

Figure 3
General Equilibrium Analysis of the Effects of a Tariff



A – consumption point in the presence of a tariff
B – production point in the presence of a tariff
A' – consumption point - no tariff
B' – production point - no tariff

5. Experience in Other Federal States

To the knowledge of the present author there are no estimates for other federal states of the effects of subnational trade barriers on the level and composition of subnational trade. In the case of Australia, the US, Russia and Brazil, several of the main issues which arise in the Canadian case seem not to occur. None of these countries, for instance, have liquor commissions operating at state level, nor do they have agricultural marketing boards at subnational level. The regulation of trucking at subnational level appears not to be an issue. There are statewide or province wide procurement policies, but no studies exist of their impacts on interprovincial trade.

The discussion of interprovincial issues in the case of Russia and Brazil is dominated by sales tax arrangements, and more specifically the VAT. Brazil was one of the first countries to adopt a VAT and proceeded along a track quite separate from that followed in Europe (see Varsano (1999)). The VAT today is a reflection of a Brazilian constitutional limitation of states in Brazil to the use of only one tax. Since 1967 this has been collected by the states, with the revenue shared with their municipalities. Services (except telecommunications and interstate and international transport) are excluded and subject to a separate municipal tax. State level VATs account for around ¼ of Brazil's tax revenues.

On introduction in 1967 there were legal restraints on the autonomy of states regarding the base, but these were disregarded and a range of exemptions used to attract plants to states. The legal structure of the tax involves a restricted origin principle. (ie. taxes on a consumption (destination) basis for international trade, but on an origin principle (production) for interstate trade.) This is believed to favour net exporting rich states over poorer states, and generated a perceived unfair revenue distribution. The resolution was for lower tax rates on cross state border

trade. The overall result has been non uniformity in rates and base across states, high compliance costs and substantial evasion.

In the Russian case the VAT is more recent, but the approach taken differs from that in the Canadian and Brazilian cases (see Bird and Gendron (2001)) in that a central VAT is used with revenue shared between subnational governments. The central issue is then the division of revenues.

In the US case, states rely on retail sales taxes which as consumption based taxes remove the issues of interstate tax exporting. There is a literature (Wolf (2001)) which documents substantial home bias occurring in patterns of internal state and intrastate trade in the US. How much (if any) of this is attributable to restraints which affect intrastate trade (even though restrained by constitutional provisions) is unclear.

In the Australian case state level taxes are restricted to payroll taxes, and so tax exporting issues with an origin based VAT do not arise. Among federal states, Australia has also been moving in a more centralist direction, with professional licensing now restricted to national rather than state wide bodies.

This limited body of literature appears to offer relatively little of direct relevance to the Canadian case, but does point to Canada having more severe issues with any interprovincial barriers than in these other cases.

6. The Border Effect and Interprovincial Trade

A further issue with interprovincial barriers is whether the presence of provincial borders can themselves directly affect interprovincial trade flows even though no formal barriers may be present. This issue is raised centrally in recent literature in international trade on border effects, and the question is whether it also applies to interregional trade.

The border effect is a feature that can be present either in observed data or a counterfactual model solution and is usually associated with McCallum's (1995) paper in which he used a gravity model applied to both the international and interprovincial trade of Canadian provinces to show that even correcting for distance there is still a large effect on the Canadian border on Canada-US trade patterns. This is true even though there are low tariffs in both countries. McCallum's objective was to counter earlier claims in the literature that due to postwar economic integration in the OECD, borders had effectively disappeared in terms of their impacts on behaviour.

The border effect can refer to either data or model outcomes. To generate it as a model outcome seemingly implies a model with some form of regional bias as a preference for domestic over foreign goods. At a minimum, for the border effect to occur it seems to call for a structural model with 2 domestic regions and 1 foreign country. Conventional home bias implies preferences that operate in favour of domestic over foreign goods, and for this one does not need a model with regional structure. If both home and regional biases are present they seemingly operate independently.

The border effect is usually measured by a multiplier derived from a gravity model regression. The estimated coefficient for a regional dummy can be used to calculate the higher probability of trade occurring between regions in a country rather than across national borders.

Other authors measure the border effect in different ways. Head and Ries (2001), for instance, measure the border effect as $\sqrt{\frac{x}{1-x}\frac{x^*}{1-x^*}}$, where x and x^* are the shares of home and foreign produced goods in expenditures.

In McCallum (1995) and subsequent gravity model literature the border effect is calculated using the regression coefficient of a border dummy variable in a gravity equation. McCallum (1995) specifies an estimating equation for x_{ij} as the log of shipments of goods from region i to region j of the form

$$x_{ij} = a + by_i + cy_j + d\text{dist}_y + e\text{DUMMY}_{ij} + u_{ij} \qquad (1)$$

where y_j is the log of gross domestic product in j, dist_{ij} is the log of distance between region i and region j, DUMMY_{ij} is a dummy variable which is 1 if i and region j are regions in the same country and 0 otherwise, and u_{ij} is an error term.[1]

McCallum uses data for incomes from 10 Canadian provinces, and their shipments with the largest 30 US states for 1988, along with data on the bilateral trade flows between Canadian provinces to estimate (1). He then compares actual trade to predicted borderless trade with the dummy variable removed. The gravity model predicts that, on average, combined Canadian internal and international trade should be overwhelmingly North-South. The presence of the Canada-US border results in trade between two Canadian provinces which is, on average, 20 times larger than trade between an average province and an average state. This multiplier is referred to as the border effect in McCallum's paper and in subsequent studies. By way of example, his results imply that British Columbia's exports to Texas should be 50% larger in a

[1] Although exports are usually the dependent variable in gravity models, the gravity model can also be applied to imports and combined bilateral trade. A key assumption using the gravity model to estimate border effects in this way is symmetry; that exports by region i to region j equal exports by region j to region i. If the symmetry assumption is not met, the border effect from a gravity model on exports will differ from the border effect in terms of imports.

borderless world than their exports to Ontario, while in the data they are $1/11^{th}$ of these. McCallum provides no structural behavioural model to underpin his regression, and the term border effect is defined only in terms of the regression coefficient on the regional dummy.

Later studies using the gravity model, such as Helliwell (1998), suggest that the Canada-US border effect has been decreasing following the implementation of the US-Canada FTA. However, almost all studies support the position that the Canada-US border effect is still strong. (Helliwell (1996 and 1998); Anderson and Smith (1999); Anderson and van Wincoop (2003); Hillberry (2002); Balistreri and Hillberry (2005); Wall (2000)). Engel and Rogers (1996) find similar border effects by examining the variation of prices of similar goods in different US and Canadian cities. A number of studies also suggest that there is a similar border effect within the EU (Head and Mayer (2002)), within the OECD (Wei (1996); Evans (2003)) and even within the US comparing across and within state shipment data (Wolf (2000); Hillberry and Hummels (2003)).

The literature thus points to a border effect being present in both national and regional economies even if formal barriers are either low or absent, and in this sense is also relevant to debate on interprovincial trade barriers in Canada. The sharp relative growth in Canada's international relative to interprovincial trade more recently can be taken to reflect relative weakening of these effects at a provincial level, or the relative lowering of international trade barriers relative to interprovincial barriers. How border effects at an interprovincial level not due to formal barriers can be mitigated by policy interventions is, however, unclear.

7. The Agreement on Internal Trade (AIT) and the Alberta-BC Agreement

Since the 1980's there have been two major policy initiatives towards weakening whatever impacts result from interprovincial trade barriers. One is a GATT like mechanism negotiated as the Agreement on Internal Trade (AIT) in 1995, and the other is a more recent Alberta-BC agreement. In terms of legal structure, the AIT goes a substantial distance but its relatively weak dispute settlement mechanism has lead to substantial doubt about its impacts.

The 1995 AIT specifies broad principles that are to apply to any use of measures. These include nondiscrimination, rights of entry to or exit from provincial markets, that new provincial policies not create obstacles to trade, that there are "legitimate objectives" that justify deviations from these principles (such as consumer protection, environmental protection, public health and safety), that barriers due to differences in standards are to be reconciled and eliminated, and transparency apply through a publication and notification process.

Twelve sectoral chapters then follow. The government procurement chapter aims to end local price preferences, biased contract specifications, and other impediments. The investment chapter limits residency requirements, the use of local content, local purchasing and local sourcing requirements. The labour mobility chapter restricts the use of residency requirements and establishes procedures for mutual recognition of qualifications and reconciliation of occupational standards. A chapter on consumer related measures and standards commits to harmonization of standards and regulations (fees for licensing and regulation, removal of location as a condition for certification, harmonized labelling). The agricultural chapter commits provincial ministers to review agricultural policies; with a standstill on new trade restrictions, including sanitary and phytosanitary measures. The alcoholic measures chapter commits to a phased elimination of barriers on wine and beer. The natural resources chapter prohibits new

barriers which affect the processing of forestry, fishery, and mineral resource products. The communications chapter supports a single communications market and nondiscrimination provisions on telecommunications. The transport chapter moves towards harmonization of trucking licensing and inspection, and an environmental protection chapter accepts environment objectives as legitimate policy objectives for provincial governments.

The institutional provisions within the AIT involve a ministerial level committee on internal trade (CIT), a Secretariat located in Winnipeg, and dispute settlement based on panel procedures. The main mechanism to achieve implementation of panel findings is to be public pressure, but with CIT-sanctioned retaliation as a last resort.

At first sight, this agreement seems far reaching and comprehensive, but the reality has unfortunately been less so. Importantly, the dispute settlement mechanism is vague and lacks force, since unlike the GATT/WTO withdrawal of equivalent concessions has no direct analogue since bound tariffs are not the issue. Also, there are significant and key exceptions. In agriculture, the commitment is only to further negotiation, and transportation only involves partial movement towards national standards. The record thus far on dispute settlement has been for 3-4 panels a year to report, and their findings are then reported as recommendations only and with limited force.

In some contrast, the recent 2006 Alberta-BC Trade, Investment and Labour Mobility Agreement (TILMA) goes substantially further than the AIT. This consolidates a series of specific memoranda of understanding between the provinces going back to 2003 by providing a set of bilateral overarching commitments. The aim is by April 2009 to streamline business registration and reporting requirements so that businesses registered in one province are automatically recognized in the other; to improve bilateral labour mobility by recognizing

occupational certificates of workers in both provinces; to provide open and non discriminatory bilateral access to government procurement; and creating stronger dispute resolution. While precise details on how the dispute mechanism will operate are yet to emerge, panels will have the power to make binding rulings, and private individuals or corporations from either BC or Alberta can initiate complaints rather than only governments. Monetary compensation is limited to $5 million, but multiple challenges can be made on the same issue.

How the ABC TILMA agreement actually impacts on bilateral trade remains to be seen. One view is that it is essentially a prescription for 2 years of further negotiation, which in the case of labour mobility will largely parallel negotiations under the AIT. The contrary view is that it is a radical and much needed departure from the AIT, especially in the dispute settlement area.

The ABC TILMA agreement has been the subject of a recent study by the Conference Board of Canada (CBOC) (2005) undertaken for the B.C. Ministry of Economic Development. The approach used was to conduct a survey of industry and government organizations as to their evaluation of the likely impact of the agreement and use survey responses to predict economic impact. Twenty-four organizations were approached (11 from government and 13 from the private sector) but only 10 responses came from 6 government ministries and 4 private sector bodies.

The survey asked respondents to rate the impact of the TILMA proposal on a scale of +3 to -3 (in integer form) both as a whole and in terms of the transparency and standards regulations clauses in the agreement. +3 was interpreted by CBOC as yielding an impact greater than 10% of GDP; +2 an impact between 5 and 10%; +1 an impact between 0 and 5% of GRDP; 0 negligible impact; -1 negative impact between 0 and 5% of GDP; -2 negative impact between 5 and 10% of GDP; and -3 negative impact greater than 10% of GDP. Those receiving the survey were,

however, only given the indication that +3 indicates a significant benefit, +2 a moderate benefit, +1 a small benefit, and -1, -2 and -3 small, moderate, and significant challenges.

In addition to evaluating overall impact, those completing the survey were asked to evaluate more detailed impacts on 11 industries (agriculture, primary, utilities, construction, manufacturing, wholesale and retail trade, transport and warehousing, finance/insurance/real estate, health and education, commercial services) and 7 regions within BC (Vancouver Island, lower Mainland, Thompson-Okanagan, Kootenay, Cariboo, North Coast and Nechako, Northeast).

The 4 survey responses from the private sector were described by CBOC as "very positive", although government responses varied. Negative reactions suggested that there were good reasons for different standards, that local businesses could suffer losses to Alberta's firms, and that the agreement did not recognize provincial autonomy in economic management. Positive reactions highlighted potential benefits flowing from reduced barriers, especially in agriculture and food, and the contribution of TILMA to an improved business and investment climate. A feature of private sector responses was the importance of TILMA in reconciling standards and regulations between provinces, and enhanced labour mobility. Survey results indicated an overall impact score on BC as a whole of 1.889, industry impacts between 0.8 and 2, and regional impacts of between 1.25 and 2.5.

The resulting survey scores were then assessed by CBOC in terms of their own interpretation of likely impacts on individual industries, and on the regions identified in a cross tabulation by region by industry. In this, scores were assigned between 0 and 2, along with detailed commentary on the potential impacts by region. Weighing regional scores by shares of B.C. employment yielded an overall B.C. impact score of 0.76%, which CBOC interpreted as a

potential impact of 3.8% of GDP (0.76 * 5%). This translated into a potential gain to B.C. of $4.8 billion in 2004, and given an average output per worker of around $62,000 implied, CBOC, suggested 78,000 new jobs.

Clearly this study is subject to numerous criticisms on methodological grounds. The non respondent majority may be negative and so there is sample selection bias. The assignment of scores to GDP change is entirely subjective, and was also not communicated to respondents. The translation of respondent scores into regional scores and employment and GDP change is subjective. The conversion of predicted GDP change into job gain assumes all workers are identical, and marginal and average effects will typically differ.

Having said this, however, the CBOC study is very clear in setting out the procedures and duly reports the elements of subjectivity which enter their assessment. Their bottom line conclusion of significant potential impact stands in sharp contrast to modelling based evaluations of interprovincial barrier impact from the 1980s, and the efforts made then of constructing inventories of measures affecting interprovincial flows.

8. Concluding Remarks, Knowledge Gaps, and New Policy Initiatives

In conclusion, there seem to be two polar positions on interprovincial barriers to trade in Canada. One is that the idea that they have large effects on trade interprovincial is a myth. Their coverage is limited; most goods and some services flow unimpeded; and barriers themselves are small. The other is that Canada is a balkanized economy with a thicket of provincial (and municipal) regulation. Inventories of barriers are few, sweeping generalizations seem many. These positions have to be seen against a backcloth of earlier studies showing that the induced effects of federal government policies (since changed) on interprovincial trade outweigh the effects of interprovincial barriers; and studies which suggest large costs of regulation at all levels of government in Canada even if differential regulation within and outside provincial suppliers. The need is to update carefully the inventories of the past; although that is tedious and time consuming work; and to reassess the applicability of earlier studies.

The knowledge gaps that need to be filled, however, relate not only to inventories of barriers; but span the need for analytic structures within which to analyze barriers. Harmonization versus mutual recognition is a case in point. The complexity of different levels of regulation in trucking (rates, entry/exit, weight and length dimension, and others) is another. Barriers cannot satisfactorily be represented in ad valorem equivalent form, and significant misrepresentation of impact can result. Equally, the model form used to analyze interprovincial barriers matters. Treating each province as fully integrated into a larger global economy implies interprovincial barriers have no effects on consumers, and only distort production patterns; while modelling Canada as a closed economy (which may be appropriate for some services) generates consumer price effects.

Equally, there are knowledge gaps in terms of possible directions that might be taken at the policy level. How would an extension of the ABC agreement to all provinces work? Is it possible to strengthen the AIT dispute mechanism along ABC lines? Is it possible to go further and allow for mutual agreement as to the withholding of federal funding to provinces found to be in non compliance with commitments? Are there more satisfactory transparency mechanisms than publication and notification, such as mandated studies of impact assessments to accompany complaints?

Filling these gaps is the challenge for the future.

References

Alberta (2006), "Alberta and BC break down barriers to create single large market", Press Release, Government of Alberta.

Anderson, M.A. and S. L. S. Smith (1999). "Do National Borders Really Matter? Canada-US Regional Trade Reconsidered", *Review of International Economics*, 7(2), pp. 219-227.

Anderson, J.E., and E. van Wincoop (2003). "Gravity with Gravitas: A Solution to the Border Puzzle", *American Economic Review*, 93(1), pp. 170-192.

Balistreri W.J., and R.H. Hillberry (2005). "Structural Estimation and the Border Puzzle", Mimeo, the University of Melbourne.

Bird, R.M. and P.-P. Gendron (2001) "VAT in Federal States: International Experience and Emerging Possibilities" (mimeo).

Boadway, R. (1996), "Comment on Whalley" in (ed.) P. Howitt, The Implications of Knowledge Based Growth for Micro Economic Policies, Industry Canada Research Series, University of Calgary Press

Compas (2004), "Interprovincial Trade Barriers: Seriously Damaging to the Economy and Standard of Living and Almost as Harmful as Canada-US Trade Barriers", BDO Dunwoody/Chamber Weekly CEO / Barriers Leader Poll published in Financial Post, Sept. 13, 2004.

Conference Board of Canada (2005) "An Impact Assessment of the BC/Alberta Trade, Investment and Labour Mobility Agreement," Prepared for the British Columbia Ministry of Economic Development, September.

Coloumbe, S. (2003) "International Trade, Interprovincial Trade, and Canadian Provincial Growth" Working Paper No 40, Industry Canada.

Engel, C. and J.H. Rogers (1996). "How Wide Is the Border?", *American Economic Review*, 86(5), pp. 1112-1125.

Evans, C. L. (2003). "The Economic Significance of National Border Effects", *American Economic Review*, 93(4), pp. 1292-1312.

Head K. and T. Mayer (2002). "Illusory Border Effects: Distance Mis-measurement Inflates Estimation of Home Bias in Trade", Mimeo, University of British Columbia

Helliwell, J.F. (1996). "Do National Boundaries Matter for Quebec's Trade?", *Canadian Journal of Economics*, 29(3), pp. 507-522.

Helliwell, J.F. (1998). "How Much Do National Borders Matter?", Washington, DC: Brookings Institution Press, 1998.

Hillberry, R.H. (2002). "Aggregation Bias, Compositional Change, and the Border Effect", *Canadian Journal of Economics*, 35(3), pp. 517-530.

Hillberry, R.H. and D. Hummels (2003). "Intra-National Home Bias: Some Explanations", *Review of Economics and Statistics*, 85(4), pp. 1089-92.

Hopkins, T.D. (1992) "Costs of Regulation: Filling the Gap", Report prepared for the Regulatory Information Services Centre, Washington D.C.

Industry Commission (1995) "The Growth and Revenue Implications of Hilmer and Related Reforms", A Report by the Industry Commission to the Council of Australian Government, Canberra.

McCallum, J. (1995), "National Border Matters: Canada-US Regional Trade Patterns", American Economic Review, Vol. 85(3), pp 615-623.

Mihar, F. (1996) "Regulatory Overkill: The Costs of Regulation in Canada", Fraser Institute, Vancouver.

Trebilcock M. J., J. Whalley, C. Rogerson and I. Ness (1983), "Provincially Induced Barriers to Trade: A Survey", in (ed.) R. Prichard, M. Trebilcock, T. J. Courchene and J. Whalley, Federalism and the Economic Union, University of Toronto Press, pp 243-351.

Varsano, R. (1999) "Subnational Taxation and treatment of Interstate Trade in Brazil: Problem and a Proposed Solution" (mimeo).

Wall, H.J. (2000). "Gravity Model Specification and the Effects of the Canada-U.S. Border", Working Paper 2000-024A, Federal Reserve Bank of St. Louis.

Wei, S.J. (1996). "Intra-national versus International Trade: How Stubborn Are Nations in Global Integration", NBER working paper No. 5531.

Western Centre for Economic Research (2000), "Alberta Non Tariff Trade Barriers Study", Faculty of Business, University of Alberta.

Whalley, J. (1983), "The Impact of Federal Policies on Interprovincial Activity in (ed.) R. Prichard, M. Trebilcock, T. J. Courchene and J. Whalley, Federalism and the Economic Union, University of Toronto Press, pp 201-242.

Whalley, J. (et. al) (1983), "Induced Distortions of Interprovincial Activity: An Overview of Issues", in (ed.) R. Prichard, M. Trebilcock, T. J. Courchene and J. Whalley, Federalism and the Economic Union, University of Toronto Press, pp 161-200.

Whalley, J. and I. Trela (1986), Regional Aspects of Confederation, Vol. 68 of Research Papers for the Royal Commission on the Economic Union and Development Prospects for Canada, University of Toronto Press, 1986.

Whalley, J. (1996), "Interprovincial Barriers to Trade and Endogenous Growth Considerations", in (ed.) P. Howitt, The Implications of Knowledge Based Growth for Macro Economic Policies, 1996, University of Calgary Press.

Winston, C. (1993), "Economic Deregulation: Days of Reckoning for Microeconomists", Journal of Economic Literature, Vol. 31, pp.1263-89.

Wolf, H. C. (2000), "Intra-National Home Bias in Trade", Review of Economics and Statistics, Vol.82(4), pp 555-563.

Young, A. (1991), "Learning by Doing and the Dynamic Effects of International Trade", *Quarterly Journal of Economics*, Vol. 106 (1991) pp 369-405.